Rhode Island Hospital

The Miriam Hospital

Newport Hospital

Cancer Program Annual Report
2017

Report of the Cancer Committee

Content

Introduction

In August 2013, the cancer programs at Rhode Island Hospital, The Miriam Hospital, and Newport Hospital officially merged into one, system-wide Integrated Network Cancer Program. The mission of the program is to provide patient centered, research focused, high quality, high value care that is consistent across our network.

The Lifespan Cancer Institute a Program of Rhode Island Hospital, brings together world-renowned physicians whose level of knowledge and experience are unparalleled in Rhode Island. A multidisciplinary team of specialists from Rhode Island Hospital, The Miriam Hospital and Newport Hospital provide patients diagnosed with cancer or hematologic disorders access to a full range of cancer services.

The hematology and oncology program has a disease specific focus, led by highly trained board certified specialists. Teams of expert medical oncologists, hematologists, radiation oncologists, oncology surgeons, radiologists, pathologists, nurse practitioners, physician assistants, nurses, clinical pharmacists, patient navigators, geneticists, social workers and dietitians are dedicated to the diagnosis, treatment and prevention of cancer. Our model of care provides patient access to disease specific multidisciplinary clinics where patients see all disciplines in one setting and a proposed treatment plan is developed. The team works closely and compassionately with patients and families to ensure the highest standard of care is provided to achieve the best possible outcome. Nurse and lay navigators ensure patients have the information and resources they require. When treatment is completed the Institute continues to support patients and their families through survivorship, support groups and wellness programs.

The Cancer Program at Rhode Island Hospital, The Miriam Hospital and Newport Hospital was awarded the Outstanding Achievement Award which includes a 3 year accreditation with commendation from the Commission on Cancer (CoC) of the American College of Surgeons (ACoS) in 2015. This voluntary accreditation validates that our Integrated Network Cancer Program meets and exceeds the rigorous standards set by the Commission on Cancer of the American College of Surgeons.

This 2017 Annual Report summarizes Cancer Program statistics for 2016, during which time 4,117 cases were accessioned. The analytic case count was 3,484 and the non-analytic case count was 633. For patients diagnosed and treated at Rhode Island Hospital, The Miriam Hospital and Newport Hospital a lifelong follow-up rate of at least 90% is maintained.

In 2017, the Cancer Committee conducted a colon cancer outcome analysis to assess the program's overall experience with this disease. It is estimated 95,520 new cases of colon cancer will be diagnosed in the United States during 2017. Occurring at a rate of about 1 in 21 (4.7%) for men and 1 in 23 (4.4%) for women colon cancer is the third most commonly diagnosed cancer in both men and women. It is estimated that 480 residents in Rhode Island will be affected by colon and rectum cancer during 2017.

The programmatic and clinical goals for 2017 were as follows:

Programmatic*: *Decrease the no-show appointment rate for medical oncology (provider visits) to 2% and infusion therapy visits to 1%. No-show appointments detract from effective resource utilization and increase the access to care time for future patients.

- Review of multidisciplinary clinic (MDC) no-show visit rates, as measured in evaluation and management coding, revealed process inconsistencies. As MDC appointments are with three providers these "no-show" visits were coded as 3 missed appointments,

as opposed to 1 no-show for an MDC visit. To ensure consistency going forward, staff were re-educated on the no show coding process.

- The acknowledgement of inpatient hospital admission was another source of inconsistency. The communication process of this status was corrected and inpatient admission status is no longer considered in the no-show rate.
- The Lifespan Cancer Institute no show rates for FY17 revealed: Medical Oncology (provider) visits of 4.80%, 3.99%, 4.38%, and 4.98 respectively with an average of 4.98%; Infusion Visits revealed: 1.67%, 1.40%, 1.51%, and 1.75%respectively with an average of 1.75%.
- While this did not meet the 2% medical oncology (provider) visit and 1% infusion visit goal established in February 2017, an overall decrease was noted throughout the year.

Clinical: Develop and implement a multidisciplinary Geriatric Oncology program.

The mission of the program is to provide consultative expertise in establishing goals of care and a potential plan of care for geriatric cancer patients. The clinic does not provide continuing treatment but attempts to help referring physicians, patients and families understand the potential for future cancer therapy.

In February, 2017 the multidisciplinary Geriatric Oncology program began seeing patients at the Rhode Island Hospital campus. Three months later the program was expanded to The Miriam Hospital campus and now meets every Thursday, alternating between Rhode Island and Miriam Hospital. During 2017, 25 patients were seen in the multidisciplinary Geriatric Oncology program.

The program is by referral only and provides a comprehensive assessment and follow up note to the referring physician. The logistics mirror a multidisciplinary clinic where the patient is seen by several disciplines in one setting. In this model, professionals in medical oncology, geriatric medicine, geriatric NP/nurse navigator, pharmacy, social work, rehabilitation medicine and nutrition evaluate patients during a one (1) to two (2) hour visit. Patients are initially asked to complete the G8, a screening functional assessment tool as well as a patient Geriatric assessment form. After each visit, the multidisciplinary team meets to discuss each case and formulate the written assessment and consult note.

Team member assessment and roles as below:

Geriatrician

- Functional status
- Cognitive assessment
- Depression and Emotional Distress
- Frailty assessment based on the CGA
- Participates, enhances goals of care discussion.

Medical Oncology

- Estimation of life expectancy, in the absence of cancer, using the e-Prognosis and The Lee Four-Year Mortality calculator. This estimate frames the cancer diagnosis in perspective of the patient's other comorbidities.
- Risk of Toxicity score, based on the CARG Chemotherapy Toxicity Calculator.
- Each patient is assigned the Karnofsky performance status.
- Initiates goals of care discussion.

Dietician

- Performs a comprehensive nutritional assessment using Mini Nutrition Assessment (MNA) and identifies patients at risk for nutritional decline, provides education and recommendations.

Pharmacist

- Performs a complete medication review assessing for polypharmacy, drug interaction with proposed chemotherapy etc.

Social Worker

- Uses Distress Thermometer to identify patient psychosocial stressors. Assesses caregiver resources and home situation.

Geriatric NP/nurse navigator

- Provides patient centered care in the clinic by communicating with the patient and family from the initial appointment throughout the experience. The navigator coordinates the flow of caregivers the day of the assessment and plays an integral role in any follow up care, including home care referrals. By helping patients navigate the health care system to make appointments, obtain records and confirm locations, the navigator provides the communication link that can lead to high compliance and satisfaction for the patient and family members.

At the conclusion of each clinical session, the entire inter-professional team meets to review each case and formulates a comprehensive assessment that incorporates the expertise from each discipline. The geriatrician evaluates the information obtained and typically classifies the patients into Fit, Vulnerable or Frail. The consultative assessment is evidence based, patient centered and multidisciplinary. Using this model helps physicians, patients and families make critical decisions about future treatment options.

2017 Cancer Oversight Committee Membership

Charlene Ainscough, RN, OCN	Clinical Manager	Adult Inpatient Oncology Nursing
Megan Begnoche, RN, AOCN	Nursing Quality & Safety Manager *Quality Improvement Coordinator*	Lifespan Cancer Institute
Carrie Bridges-Feliz	Director *Community Outreach Coordinator*	Community Outreach
Michael Beland, MD	Radiologist	Diagnostic Imaging
James Butera, MD	Medical Oncologist	Lifespan Cancer Institute
Laura Butterfield, RN, OCN	Director	Lifespan Cancer Institute
Christine Collins, MBA, RPh	Director	Pharmacy
Thomas DiPetrillo, MD	Radiation Oncologist *Chair, Cancer Committee* *Cancer Conference Coordinator*	Radiation Oncology
Nicholas Dominick	Senior Vice President	Clinical Service Lines & Facilities Development

2017 Cancer Oversight Committee Membership

Sheila Earle, CTR	Cancer Registrar	Oncology Data Management
Alexandra Fiore	Representative	American Cancer Society
Mary Flynn, PhD, RD, LDN	Nutritionist	Nutrition Services
Theresa Graves, MD	Director, Breast Program Breast Surgeon	Surgery
Arnold Herman, MD	Breast Surgeon Cancer Committee Liaison	Surgery (Retired)
Theresa Jenner	Director *Psychosocial Services Coordinator*	Clinical Social Work
Susan Korber, RN, OCN	Cancer Program Administration Vice President	Lifespan Cancer Institute
Mark LeGolvan, MD	Pathologist	Pathology Services
Kara Lynn Leonard, MD	Radiation Oncologist *Cancer Liaison Physician (CLP)*	Radiation Oncology
Carrie Marcil, PT, LANA	Physical Therapist	Rehabilitation Services
Alessandro Papa, MD	Medical Oncologist	Lifespan Cancer Institute
Julie Principe, RN	Director	Lifespan Cancer Institute
Jayne Ritz, MS, RN, OCN	Manager	Lifespan Cancer Institute
Andrew Schumacher, CCRP	Manager *Clinical Research Coordinator*	Lifespan Oncology Clinical Research
Jennifer Schwab, MS, CGC	Genetics Counselor	Genetics Clinic
Marsha Stephenson, RN	Clinical Coordinator	Home & Hospice Care Of RI
Rochelle Strenger, MD	Medical Oncologist	Lifespan Cancer Institute
Tara Szymanski, CTR	Manager, Quality, Accreditations, & Data Management *Cancer Registry Coordinator*	Oncology Data Management
Angela Taber, MD	Palliative Care / Medical Oncologist	Lifespan Cancer Institute
Christina Vieira, CTR	Cancer Registrar	Oncology Data Management
Patricia Weissman, MS, RN	Quality Improvement Specialist	Operational Excellence

2016 Analytic Case Distribution by Primary Site

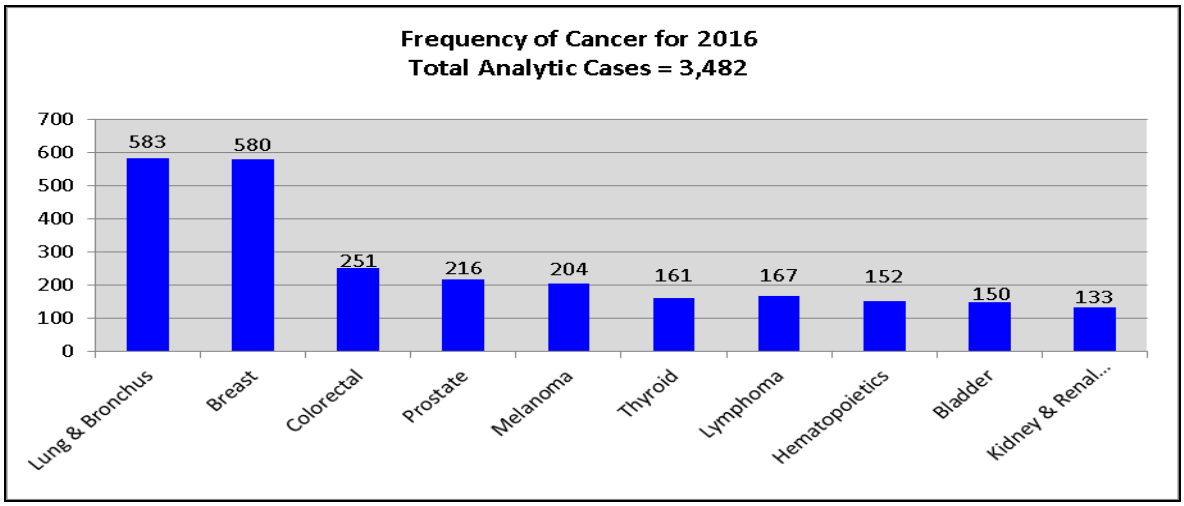
Rhode Island Hospital : The Miriam Hospital : Newport Hospital

PRIMARY SITE	TOTAL	SEX		AJCC STAGE					Stage Unknown	Stage Not Applicable
		M	F	0	1	2	3	4	99	88
Oral Cavity	59	37	22							
Lip	0	0	0	0	0	0	0	0	0	0
Tongue	17	10	7	0	4	0	0	12	1	0
Salivary Gland	5	2	3	0	0	0	1	2	1	1
Floor of Mouth	6	3	3	0	1	0	0	4	1	0
Gum & Other Mouth	6	4	2	2	0	0	0	4	0	0
Nasopharynx	1	1	0	0	0	0	0	1	0	0
Tonsil	15	11	4	0	1	0	4	8	2	0
Oropharynx	7	4	3	0	0	0	0	6	1	0
Hypopharynx	2	2	0	0	0	0	0	2	0	0
Other Oral Cavity Organs	0	0	0	0	0	0	0	0	0	0
Digestive System	607	321	286	14	105	109	128	171	44	36
Esophagus	41	27	14	4	5	7	12	9	4	0
Stomach	51	33	18	0	9	5	14	21	2	0
Small Intestine	23	8	15	0	3	4	3	6	1	6
Colon	165	79	86	4	40	42	35	29	10	5
Rectum & Rectosigmoid	86	46	40	2	13	14	25	21	7	4
Anus & Anorectum	25	8	17	1	1	7	7	1	6	2
Liver & Intrahepatic Duct	61	40	21	0	16	5	10	14	8	8
Gallbladder	13	3	10	0	1	4	3	5	0	0
Other Biliary	25	14	11	0	4	6	1	9	3	2
Pancreas	110	61	49	3	12	15	18	56	3	3
Retroperitoneum	1	0	1	0	1	0	0	0	0	0
Other Digestive Organs	6	2	4	0	0	0	0	0	0	6
Respiratory System	602	291	311	4	166	57	91	246	22	17
Larynx	18	12	6	2	2	0	2	11	1	0
Lung & Bronchus	583	278	305	2	164	56	89	234	21	17
Other Respiratory	2	1	1	0	0	1	0	1	0	0
Mesothelioma	8	6	2	0	0	0	2	2	4	0
Bone & Soft Tissue	32	14	18	0	7	5	7	7	6	0
Bone & Joints	9	6	3	0	2	3	1	2	1	0
Soft Tissue	23	8	15	0	5	2	6	5	5	0
Skin Excluding Basal & Squamous Cell	217	123	94	54	99	27	16	4	13	4
Melanoma – Skin	204	116	88	54	95	25	15	4	11	0
Other Non-Epithelial Skin	13	7	6	0	4	2	1	0	2	4
Other Defined Sites	43	22	21	0	0	0	0	0	0	6
Breast	580	7	573	98	283	130	30	18	21	0

PRIMARY SITE	TOTAL	SEX		AJCC STAGE					Stage Unknown	Stage Not Applicable
		M	F	0	1	2	3	4	99	88
Female System	122	N/A	122	1	45	9	31	21	7	8
Cervix Uteri	21	N/A	21	0	4	3	7	5	0	2
Corpus & Uterus, NOS	64	N/A	64	0	34	4	14	3	5	4
Ovary	23	N/A	23	0	4	1	4	10	2	2
Vagina	2	N/A	2	0	1	1	0	0	0	0
Vulva	4	N/A	4	1	1	0	2	0	0	0
Other Female Organs	8	N/A	8	0	1	0	4	3	0	0
Male System	238	238	N/A	2	53	91	52	36	4	0
Prostate	216	216	N/A	0	39	87	50	36	4	0
Testis	18	18	N/A	0	14	3	1	0	0	0
Penis	4	4	N/A	2	0	1	1	0	0	0
Other Male Organs	0	0	N/A	0	0	0	0	0	0	0
Urinary System	291	193	98	68	135	23	31	27	7	0
Urinary Bladder	150	108	42	63	52	17	5	10	3	0
Kidney & Renal Pelvis	133	80	53	5	80	4	26	15	3	0
Ureter	7	5	2	0	2	2	0	2	1	0
Other Urinary Organs	1	0	1	0	1	0	0	0	0	0
Brain & Other Nervous System	180	86	94	0	0	0	0	0	0	180
Brain	85	49	36	0	0	0	0	0	0	85
Cranial Nerves & Other	95	37	58	0	0	0	0	0	0	95
Endocrine System	180	58	122	0	105	12	23	14	7	19
Thyroid Gland	161	45	116	0	105	12	23	14	7	0
Other including Thymus	19	13	6	0	0	0	0	0	0	19
Hematopoietic System	152	88	64	0	0	0	0	0	0	152
Leukemia	114	65	49	0	0	0	0	0	0	114
Myeloma	38	23	15	0	0	0	0	0	0	38
Lymphomas	167	83	84	0	37	31	24	59	16	0
Hodgkin's Disease	25	11	14	0	2	11	4	7	1	0
Non-Hodgkin’s	142	72	70	0	35	20	20	52	15	0
Kaposi Sarcoma	3	2	1	0	0	0	0	0	0	3
Total Analytic Cases	**3,481**	**1,569**	**1,912**	**243**	**1,041**	**494**	**440**	**644**	**160**	**460**
		45%	**55%**	**7%**	**30%**	**14%**	**13%**	**19%**	**4%**	**13%**

Top Ten Sites

The ten most common sites for the Cancer Program, based on 2016 analytic* cases are (in descending order by percent of total incidence Lung & Bronchus (17%), Breast (17%), Colorectal (7%), Prostate (6%), Melanoma (6%), Thyroid (5%), Lymphoma (5%), Hematopoietic Malignancy (4%), Bladder (4%), Kidney & Renal Pelvis (4%). This distribution differs from that of the American Cancer Society (ACS) which was noted to be (in descending order by percent of total incidence) Breast (15%), Lung and Bronchus (13%), Prostate (10%), Colorectal (8%), Melanoma (5%), Lymphoma (5%), Bladder (5%), Kidney & Renal Pelvis (4%), Hematopoietic Malignancy's (4%), Thyroid (3%).

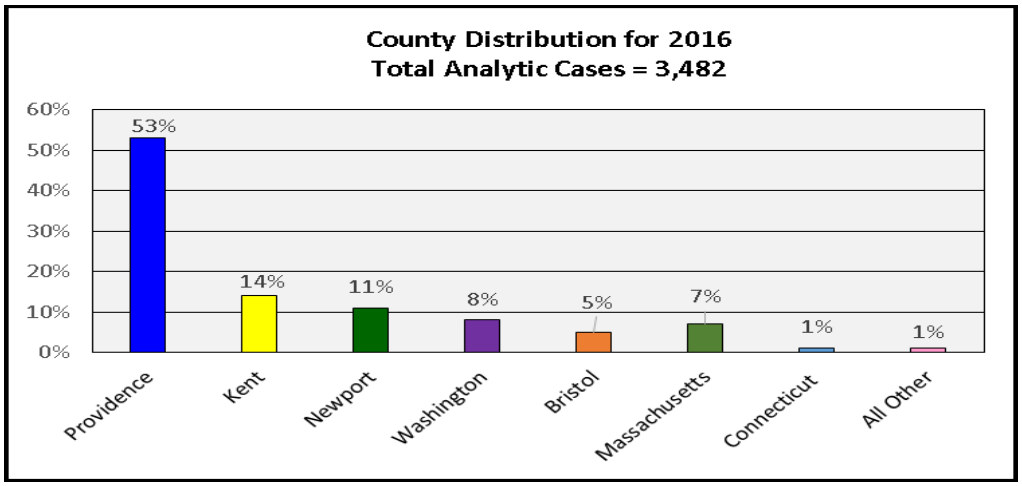


*Analytic - cancer case that was diagnosed and/or received all or part of the first course treatment at the reporting facility.

Source: Rhode Island, Miriam, & Newport Hospital Oncology Data Management Departments
Source: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2016/estimated-number-of-new-cancer-cases-and-deaths-by-sex-us-2016.pdf

Residence at Diagnosis

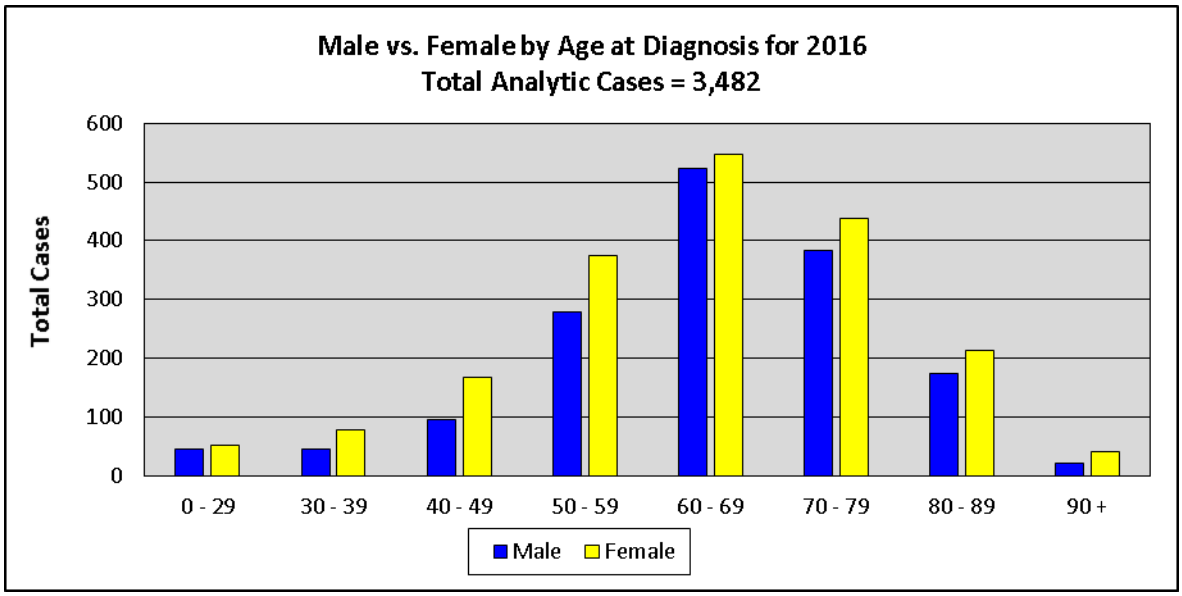
Rhode Island Hospital and The Miriam Hospital are located in Providence County and serve as major referral centers for Rhode Island, Massachusetts, and the surrounding areas. More than 50% of the Hospital's analytic cancer patients accessioned in 2016 reside in Providence County. The remainder of the Hospital's cancer patient population is distributed throughout Rhode Island and Massachusetts. Newport Hospital however, is located on Aquidneck Island and serves as the major referral center for Newport and Bristol County. More than 85% of Newport Hospital's analytic cancer patients accessioned in 2016 reside in Newport County.



Gender by Age and Stage of Disease at Diagnosis

Gender by Age

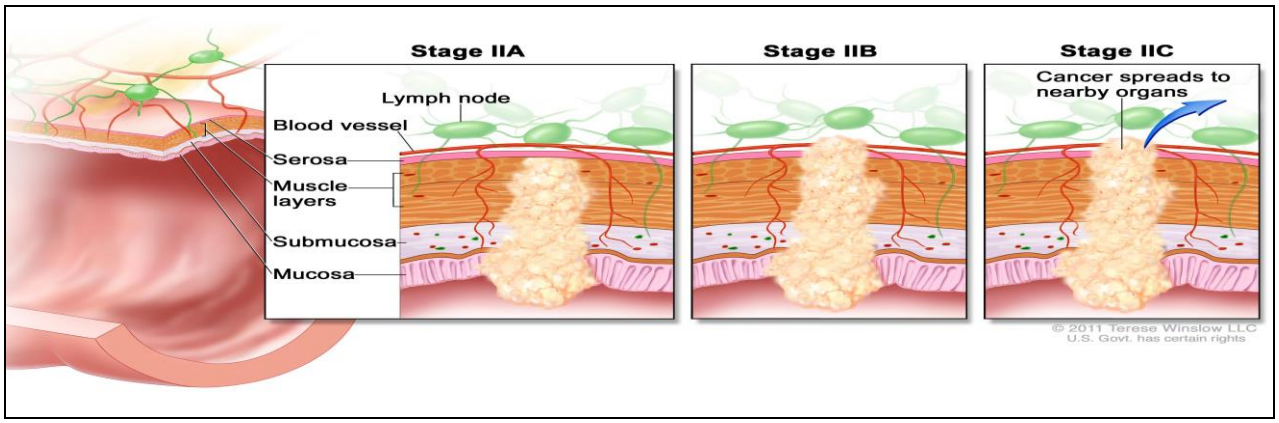
In 2016, the gender distribution for the program was 45% male and 55% female. This distribution differs from the American Cancer Society (ACS) gender distribution. Based on American Cancer Society (ACS) data, the estimated gender distribution of US cancer cases in 2016 was 50% male and 50% female. The most common age group for the cancer program was 60 – 69; approximately 31% of patients were in this age group at the time of initial diagnosis.



Source: Rhode Island, Miriam, & Newport Hospital Oncology Data Management Departments
Source: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2015/estimated-number-of-new-cancer-cases-and-deaths-by-sex-us-2015.pdf

Stage of Disease at Diagnosis

Cases entered into the Cancer Registry are categorized according to the tumor / node / metastases (TNM) staging system developed by the American Joint Committee on Cancer (AJCC) to describe the extent or spread of disease at diagnosis, which is generally predictive of survival. Of analytic cases entered into the Cancer Registry, 243 (7%) were classified as TNM stage 0, 1,041 (30%) as stage I, 494 (14%) as stage II, 440 (13%) as stage III, 644 (19%) as stage IV, 153 (4%) were classified as not staged, and 460 (13%) were not applicable to the TNM staging system.



Source: http://www.cancer.gov/images/cdr/live/CDR688428.jpg

Cancer Program Practice Profile Report (CP3R)

Cancer Program Practice Profile Reports (CP3R) – were developed by the Commission on Cancer of the American College of Surgeons to encourage quality improvement. Evidence based measures and accountability measures promote improvements in care delivery and are the highest standard for measurement. The 2015 preliminary data findings displayed below demonstrate accountability and promote transparency.

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
BREAST	Breast conservation surgery rate for women with AJCC clinical stage 0, I, or II breast cancer (Surveillance) (BCS) **(Compliance – N/A)**	84.3%	88.9%	45.5%	83.2%
	Image or palpation-guided needle biopsy (core or FNA) of the primary site is performed to establish diagnosis of breast cancer (Quality Improvement) (nBx) **(Compliance – 80%)**	91.5%	100%	81.3%	93%
	Radiation therapy is considered or administered following any mastectomy within 1 year of diagnosis of breast cancer for women with > = 4 positive regional lymph nodes (Accountability) (MASTRT) **(Compliance – 90%)**	100%	No applicable cases	No applicable cases	100%
	Radiation therapy is administered within 1 year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery for breast cancer (Accountability) (BCS/RT) **(Compliance – 90%)**	92.4%	87%	75%	90.8%
	Combination chemotherapy is considered or administered within 4 months (120 days) of diagnosis for women under 70 with AJCC T1c N0 M0, or Stage II or III ERA and PRA negative breast cancer (Accountability) (MAC) **(Compliance – N/A)**	93.8%	100%	No applicable cases	93.8%
	Tamoxifen or third generation aromatase inhibitor is considered or administered within 1 year (365 days) of diagnosis for women with AJCC T1c N0 M0, or Stage II or III ERA and/or PRA positive breast cancer (Accountability) (HT) **(Compliance – 90%)**	87.9%	83.3%	87.5%	87.8%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
CERVIX	Radiation therapy completed within 60 days of initiation of radiation among women diagnosed with any stage of cervical cancer (Surveillance) (CERRT) **(Compliance – N/A)**	66.7%	No applicable cases	No applicable cases	57.1%
	Chemotherapy administered to cervical cancer patients who received radiation for stages IB2-IV cancer (Group 1) or with positive pelvic nodes, positive surgical margin, and/or positive parametrium (Group 2) (Surveillance) (CERCT) **(Compliance – N/A)**	87.5%	No applicable cases	No applicable cases	100%
	Use of brachytherapy in patients treated with primary radiation with curative3 intent in any stage of cervical cancer (Surveillance) (CBRRT) **(Compliance – N/A)**	87.5%	No applicable cases	No applicable cases	100%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
BLADDER	At least 2 lymph nodes are removed in patients under 80 undergoing partial or radical cystectomy (Surveillance) (BL2RLN) **(Compliance – N/A)**	No data	100%	No applicable cases	100%
	Radical or partial cystectomy; or tri-modality therapy for clinical T234N0M0 patients with urothelial carcinoma of the bladder, 1st treatment within 90 days of diagnosis (Surveillance) (BLCSTRI) **(Compliance – N/A)**	62.5%	75%	0%	60%
	Neo-adjuvant or adjuvant chemotherapy recommended or administered for patients w/ muscle invasive cancer undergoing radical cystectomy (Surveillance) (BLCT) **(Compliance – N/A)**	No applicable cases	50%	No applicable cases	50%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
COLON	Adjuvant chemotherapy is considered or administered within 4 months (120 days) of diagnosis for patients under the age of 80 with AJCC Stage III (lymph node positive) colon cancer (Accountability) (ACT) **(Compliance – N/A)**	85.7%	77.8%	50%	70.6%
	At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer (Quality Improvement) (12RLN) **(Compliance – 85%)**	93.3%	98.2%	66.7%	94.3%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
LUNG	At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC (Surveillance) (10RLN) **(Compliance – N/A)**	45.8%	21.2%	No applicable cases	37.4%
	Surgery is not the first course of treatment for cN2, M0 lung cases (Quality Improvement) (LNoSurg) **(Compliance – 85%)**	78.3%	100%	No applicable cases	80%
	Systemic chemotherapy is administered within 4 months to day preoperative or day of surgery to 6 months postoperatively, or it is considered for surgically resected cases with pathologic lymph node positive (pN1) and (pN2) NSCLC (Quality Improvement) (LCT) **(Compliance – 85%)**	72.2%	100%	No applicable cases	76.2%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
RECTUM	Preoperative chemo and radiation are administered for clinical AJCC T3N0, T4N0, or Stage III; or Postoperative chemo and radiation are administered within 180 days of diagnosis for clinical AJCC T1-2 N0 with pathologic AJCC T3N0, T4N0, or Stage III; or treatment is considered; for patients under the age of 80 receiving resection for rectal cancer (Quality Improvement) (RECRTCT) **(Compliance – 85%)**	90.9%	88.9%	No applicable cases	92.3%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
ENDOMETRIUM	Chemotherapy and/or radiation administered to patients with Stage IIIC or IV Endometrial cancer (Surveillance) (ENDCTRT) **(Compliance – N/A)**	100%	No applicable cases	No applicable cases	100%
	Endoscopic, laparoscopic, or robotic performed for all Endometrial cancer (excluding sarcoma and lymphoma), for all stages except stage IV (Surveillance) (ENDLRC) **(Compliance – N/A)**	97%	No applicable cases	No applicable cases	96.7%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
OVARY	Salpingo-oophorectomy with omentectomy, debulking/cytoreductive surgery, or pelvic exenteration in Stages I-IIIC Ovarian cancer (Surveillance) (OVSAL) **(Compliance – N/A)**	53.3%	No applicable cases	No applicable cases	53.3%

	2015 CP3R Rates	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Program
GASTRIC	At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer (Quality Improvement) (G15RLN) **(Compliance – 80%)**	80%	0%	No applicable cases	80%

2017 Community Outreach Summary

The mission of the Lifespan Community Health Institute (LCHI) is to eliminate health disparities and promote health equity through healthy behaviors, healthy relationships, and healthy environments.

The LCHI envisions a Rhode Island/region in which all people can achieve their full health potential. We will do this by improving the social, economic and environmental conditions in our communities and by increasing access to high quality health services. Strategies include developing, implementing, evaluating, and disseminating initiatives to improve the health status of the people in Rhode Island and southern New England. Through strategic partnerships, LCHI also serves as a liaison/bridge between Lifespan departments and the community, through one-off events and through ongoing relationships. This includes our work through the Community Health Ambassadors and other stakeholder groups.

Below is an overview of some of the Prevention & Screening program offered in 2017.

Community Need Addressed	Program Name	Program Activities	Program Date	Num. of Participants	Summary of Effectiveness	Guidelines Used
Healthwise is a proprietary training program developed to help people- 1) do as much for themselves as they can 2) ask for the health care they need, and 3) say "no" to the care they don't need.	Healthwise	1-hour workshop in English or Spanish, delivered at community organizations; teaches people how to use the Healthwise self-care guide to make better health decisions	1/4/17 1/18/17 1/24/17 1/26/17 1/31/17 2/2/17 2/23/17 3/23/17 5/10/17 9/7/17 9/7/17	18 3 3 24 11 26 7 17 12 8 10 139	LCHI launched a new evaluation format this year. In addition to a pre/post survey on the day of the course, we have also lunched a 3-6 month follow-up to assess if/how participants are applying the skills & resources from the course.	Healthwise, Inc. has full accreditation by URAC since 2001, expires 1/1/18

Community Need Addressed	Program Name	Program Activities	Program Date	Num. of Participants	Summary of Effectiveness	Guidelines Used
Age-adjusted incidence of melanoma is up 86% (21.2/100,000) in RI from 1987-91 to 2006-10. Age-adjusted mortality is up 4% to 2.6/100,000 during the same time period. RI experienced more growth in the incidence of and mortality from melanoma than the national average during this reporting period. (RIDOH)	Skin Check (formerly known as Sun Smarts)	In collaboration with the Partnership to Reduce Cancer in RI (statewide coalition), Brown Dermatology & LCHI offer free melanoma screening and educational materials at local beaches and community events	5/31/17 7/7/17 7/14/17 7/22/17 7/30/17 8/11/17 8/13/17 8/18/17 9/30/17 10/17/17	49 (State House) Canceled-weather 65 70 89 101 54 Canceled-weather 42 39 509	509 people screened, generating 172 referrals 63 biopsy recommendations 109 others referred for follow-up 17 suspected melanomas	American Academy of Dermatology – Melanoma/Skin Screening Form

In 2017 an estimated 95,520 new cases of colon cancer will be diagnosed in the United States and an estimated 480 residents in Rhode Island will be affected by cancer of the colon and rectum.

Colon cancer is the third most commonly diagnosed cancer in both men and women. Overall, the lifetime risk of developing colorectal cancer is about 1 in 21 (4.7%) for men and 1 in 23 (4.4%) for women. Fortunately, this disease is both preventable and curable when detected early. Because people may be asymptomatic for many years, screening and early detection are important to survival. The exact causes of colon cancer are not known. However, several well-established risk factors and symptoms of colon cancer are listed below.

Risk Factors

Age and gender – the risk of developing colon cancer increases with age. More than 90% of these cancers occur in people age 50 and over. On average, men have a slightly higher risk than women for developing this cancer.

Family history of colorectal cancer – up to 20 – 25% of colorectal cancers occur in people with a family history of the disease. People who have more than one first-degree relative (sibling or parent) with the disease are at increased risk. A small percentage of patients with colorectal cancer have an inherited genetic abnormality that causes the disease. Syndromes associated with genetic mutations include familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer.

Dietary Factors – a diet high in red and processed meats increases the risk of developing this disease. Diets high in fruit and vegetables have been associated with reduced risk.

Alcohol and smoking – are associated with an increased risk for colorectal cancer. Patients who smoke and drink may also be diagnosed at a younger age than non-drinkers and non-smokers.

Obesity – is associated with an increased risk, especially for men.

Diabetes – many studies have identified an association between type 2 diabetes and colon cancer. Both diseases share common risk factors of obesity and physical inactivity. However, diabetes itself is a risk factor for colorectal cancer.

<u>Symptoms/Signs of Colon Cancer</u>

- Change in bowel habits (frequency, quality and consistency of stools)
- Bloody stools or rectal bleeding
- Stools with mucus
- Tarry stools
- Feeling of incomplete defecation

Note: These symptoms may be attributed to a number of conditions other than cancer and are often not present in early stage disease which highlights the importance of screening. It is important to consult with a medical professional.

From 2012 through 2016, the Lifespan Cancer Program accessioned 800 colon cancer patients.

ACoS Commission on Cancer – National Cancer Database
Hospital Comparison Benchmark Reports

Hospital comparison benchmark reports are available from the NCDB for the years 2006 to 2015. Various comparisons can be made by primary site, hospital type (Academic, Comprehensive Community, and Community Cancer Programs), by geographical location (individual state, ACS Division, or all states) and diagnostic year (2006 to 2015, or combined).

Throughout this report are samples of hospital comparison benchmarks on colon cancer generated for all ACoS approved Cancer Programs in the United States and the ACoS Cancer Programs in Rhode Island. This will be a valuable tool for assessing our diagnostic and therapeutic efforts as more data from proceeding years is added to the database.

Colon Cancer Diagnosed 2006 to 2015 by YEAR
All Diagnosed Cases – Hospital Type: All Types/Systems
Rhode Island Hospital, The Miriam Hospital, Newport Hospital vs. Other Hospitals in the State of Rhode Island

	Number of Colon Cases			
	Rhode Island Hospital	The Miriam Hospital	Newport Hospital	Combined Total All Other Hospitals In Rhode Island
YEAR				
2006	97	93	22	241
2007	96	89	24	253
2008	79	94	33	212
2009	93	85	27	225
2010	96	81	21	212
2011	87	45	19	214
2012	75	68	22	181
2013	87	63	9	190
2014	110	84	20	197
2015	69	83	16	148
Total	889	785	213	2,073

Source: ©2017 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Tuesday, December 5, 2017

2017 Colon Cancer Outcome Analysis

Each year in the United States, over 100,000 men and women will learn they have colon cancer. The highest overall risk and mortality are found in African Americans. Among Caucasians, Jewish individuals of Eastern European (Ashkenazi) descent have a higher rate of colorectal cancer. Asian Americans, Pacific Islanders, Hispanics/Latinos, and American Indians are noted to have a lower risk than Caucasians.

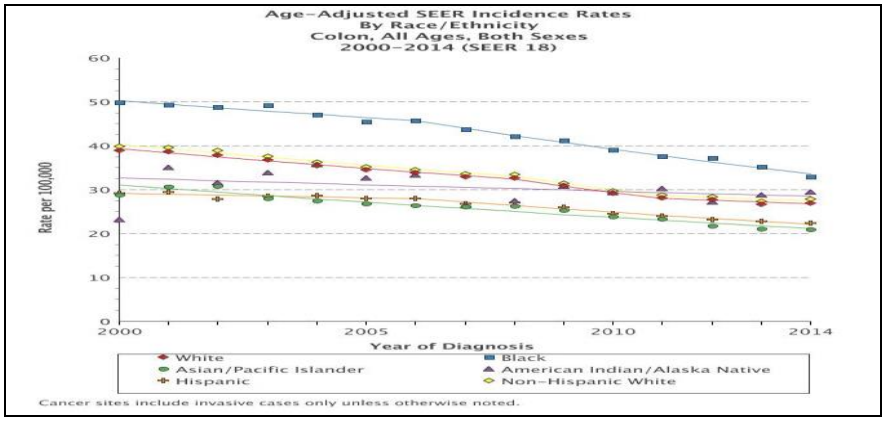
The table below is based on colon cancer and contains information obtained from the National Cancer Database (NCDB) which illustrates a race comparison between Rhode Island Hospital, The Miriam Hospital, Newport Hospital and other hospitals within the state of Rhode Island as well as hospitals in all other states.

Colon Cancer Diagnosed 2006 to 2015 by RACE
All Diagnosed Cases – Hospital Type: All Types/Systems
Rhode Island Hospital, The Miriam Hospital, Newport Hospital vs. Other Hospitals in the State of Rhode Island vs. All Hospitals in All States

	Number of Cases			Percent of Total Colon Cancer Cases by Race		
	Combined Program Total	Other Reporting Hospitals In Rhode Island	National Reporting Hospitals	Combined Program Total	Other Reporting Hospitals In Rhode Island	National Reporting Hospitals
RACE						
White	1,553	1,875	540,903	88.49%	90.06%	77.98%
Black	79	68	87,181	4.5%	4.33%	12.57%
Hispanic	83	77	35,626	4.73%	3.95%	5.14%
Asian & Pacific Islander	12	22	19,124	0.68%	0.64%	2.76%
Native American	~	5	1,901	~	~	0.27%
Other/Unknown	28	26	8,897	1.6%	1.02%	1.28%
Total	1,755	2,073	693,632	100%	100%	100%

Source: ©2017 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Tuesday, December 5, 2017

SEER: Colon Cancer Age Adjusted Incidence Rates by Race and Ethnicity, U.S., 2000–2014

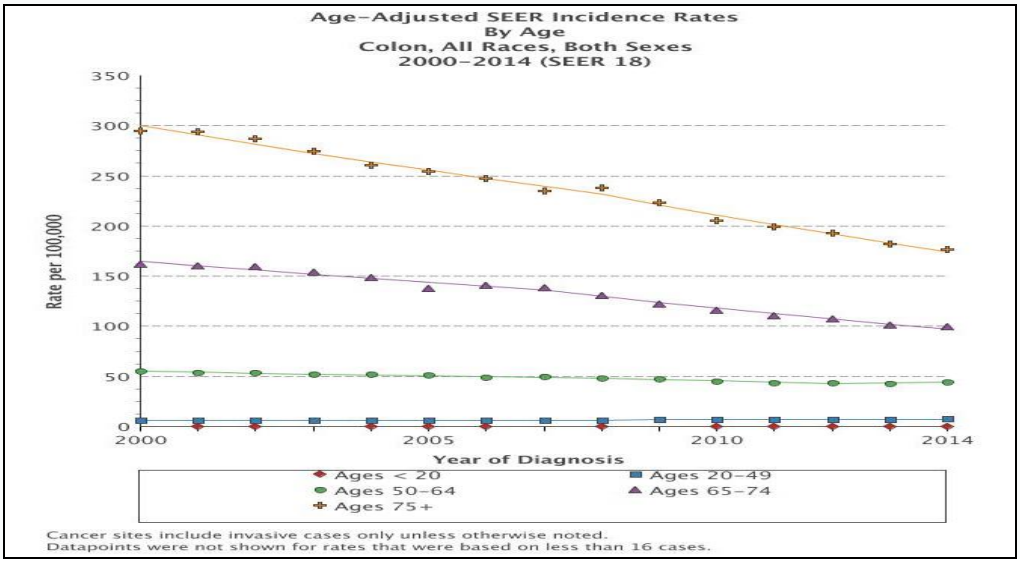


Colon Cancer Diagnosed 2006 to 2015 by AGE
All Diagnosed Cases – Hospital Type: All Types/Systems
Rhode Island Hospital, The Miriam Hospital, Newport Hospital vs. Other Hospitals in the State of Rhode Island vs. All Hospitals in All States

	Number of Cases			Percent of Total Colon Cancer Cases by Age		
	Combined Program Total	All Other Reporting Hospitals In State of RI	National Reporting Hospitals	Combined Program Total	Other Reporting Hospitals In State of RI	National Reporting Hospitals
AGE						
Under 20	4	3	814	0.23%	0.14%	0.12%
20-29	10	9	3,934	0.57%	0.43%	0.57%
30-39	32	30	14,064	1.82%	1.45%	2.03%
40-49	128	140	48,125	7.29%	6.75%	6.94%
50-59	244	291	120,048	13.9%	14.04%	17.31%
60-69	349	415	163,176	19.89%	20.02%	23.52%
70-79	467	533	177,510	26.61%	25.71%	25.29%
80-89	439	544	139,447	25.01%	26.24%	20.1%
90+	82	108	26,514	4.67%	5.21%	3.82%
Total	1,755	2,073	693,632	100%	100%	100%

Source: ©2017 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Tuesday, December 5, 2017

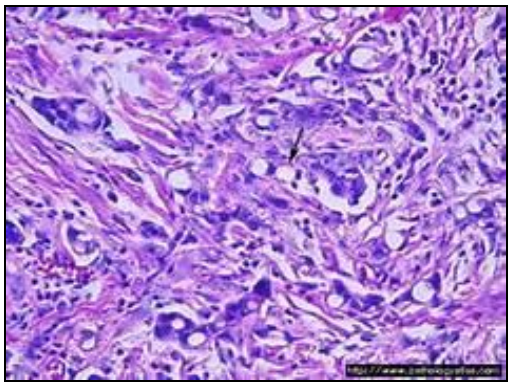
Per S.E.E.R. website: From 2000 – 2014, rates are per 100,000. The age distribution displayed below is not limited by any specific stage or histology.



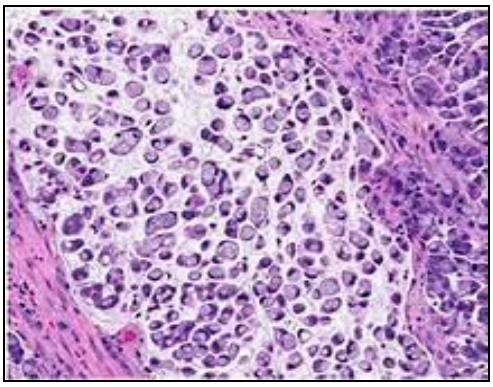
Source for both SEER graphs: https://seer.cancer.gov/faststats/selections.php?#Output

The most common histological type of colon cancer is adenocarcinoma, making up 90 – 95% of diagnoses. Adenocarcinoma is a malignant epithelial tumor that begins in the cells of glandular (tubular) structures in the inner layer of the colon. In general, the vast majority of all colon cancers develop from polyps, the bigger the polyp the more likely it is to become cancerous. Polyps greater than two centimeters have a 30 – 50% chance of becoming cancerous. Cancers on the right side (ascending colon and cecum) often present with symptoms such as anemia and are less likely to cause changes in stool caliber or cause obstruction unless they grow to large sizes. Left sided tumors, on the other hand, can be circumferential and subsequently result in thinner caliber stools or obstruction.

Two subtypes associated with adenocarcinoma of the colon are signet ring cell carcinoma and mucinous carcinoma. Adenocarcinomas comprised of at least 60% mucus are referred to as mucinous adenocarcinomas, these tumors account for 10 – 15% of all adenocarcinomas. Signet ring cell and mucinous adenocarcinomas are less common and are typically more aggressive than regular adenocarcinomas. Other less common cancer histology's that can grow within the colon, rectum or small bowel include neuroendocrine tumors, leiomyosarcomas or rarely lymphomas or melanomas



Signet Ring CellAdenoarcinoma



Mucinous Adenoarcinoma

The colon cancer histological distribution for Rhode Island, Miriam, and Newport Hospital between 2012 and 2016 are displayed in the table below.

Breast Cancer Histological Distribution	Number of Cases Per Histology	Percentage of Cases Per Histology
Adenocarcinoma, NOS	403	50.38%
Adenocarcinoma in Tubulovillous Adenoma	120	15%
Mucinous Adenocarcinoma	60	7.50%
Adenocarcinoma in Adenomatous Polyp	65	8.13%
Carcinoid Tumor, NOS	20	2.50
Mucin-producing Adenocarcinoma	25	3.13%
Signet Ring Cell Carcinoma	19	2.38
Other Histology's	88	11%

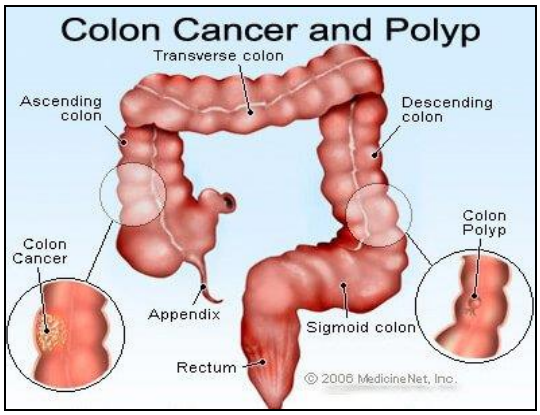
Source Image 1: http://www.cancernetwork.com/sites/default/files/styles/max_width/public/09_CA_Slide1-619.jpg
Source Image 2: https://upload.wikimedia.org/wikipedia/commons/3/34/Esophageal_adenocarcinoma_-_intermed_mag.jpg

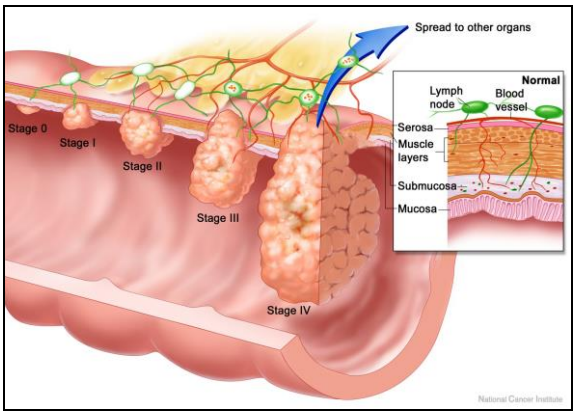
Screening at regular intervals is also strongly recommended. In 2017, the screening guidelines set forth by the US Multi-Society Task Force on Colorectal Cancer were updated and divided into three tiers based up on effectiveness:

- Tier 1 tests include colonoscopy every 10 years and annual fecal immunochemical test (FIT).
- Tier 2 tests include CT colonography every 5 years, FIT-fecal DNA every 3 years, and Flexible sigmoidoscopy every 5-10 years
- Tier 3 is capsule colonoscopy every 5 years.
- The Task Force also recommends screening average risk non-African American patients beginning at age 50 and at age 45 for African-Americans.

* Source: Rex DK et al. Colorectal Cancer screening: Recommendations for physicians and patients from the U.S. Multi-Society Task Force on Colorectal Cancer. Am J Gastroenterol 2017 Jun 6; [e-pub]

Often times additional testing is needed to assess the spread of disease. Computed tomography (CT) of the chest, abdomen, and pelvis is used to evaluate the spread of disease to adjacent tissue or distant organs.

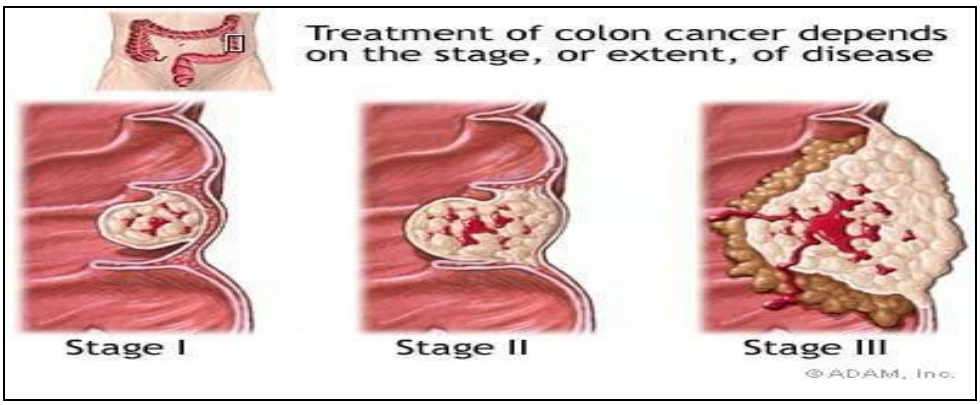




Source Image 1: http://images.medicinenet.com/images/illustrations/colon_cancer.jpg
Source Image 2: http://1.bp.blogspot.com/_2SPz56SFYxE/TSZlR_2tI5I/AAAAAAAAAEU/xeIRSm2I3fU/s1600/images+colon_cancer.jpg

Staging System

The most widely used staging scheme is the AJCC Cancer Staging Manual (TNM). The TNM describes the extent of primary Tumor (T stage), whether or not the cancer has spread to regional lymph Nodes (N stage), and the absence or presence of distant Metastasis (M stage). Patients diagnosed with colon cancer after January 1, 2010 are staged with the AJCC Cancer Staging Manual 7th Edition. The 8th Edition Staging Manual will be implemented for all cancers diagnosed on or after January 1, 2018.



2017 Colon Cancer Outcome Analysis

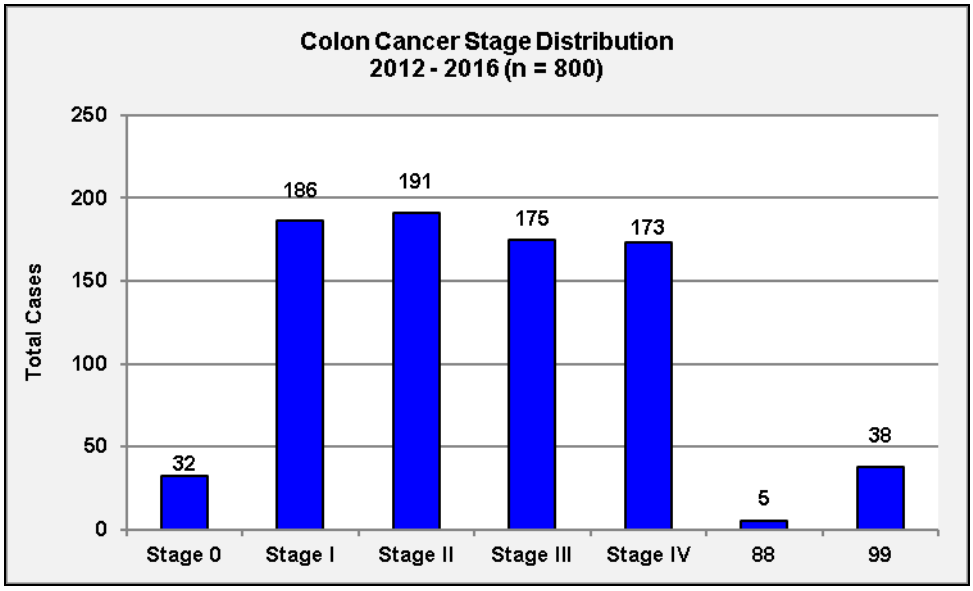
The table below contains information obtained from the National Cancer Database (NCDB) and illustrates a stage comparison between Rhode Island Hospital, The Miriam Hospital, Newport Hospital and the other hospitals within the state of Rhode Island as well as hospitals in all other states.

Colon Cancer Diagnosed 2006 to 2015 by STAGE
All Diagnosed Cases – Hospital Type: All Types/Systems
Rhode Island Hospital, The Miriam Hospital, Newport Hospital vs. Other Hospitals in the State of Rhode Island vs. Hospitals in All States

	Number of Cases			Percent of Total Colon Cancer Cases by Stage		
	Combined Program Total	Other Reporting Hospitals In Rhode Island	National Reporting Hospitals	Combined Program Total	Other Reporting Hospitals In Rhode Island	National Reporting Hospitals
STAGE						
0	77	97	41,095	4.39%	4.68%	5.92%
I	330	395	136,514	18.8%	19.05%	19.68%
II	421	480	166,944	23.99%	23.15%	24.07%
III	417	479	167,103	23.76%	23.11%	24.09%
IV	327	414	131,987	18.63%	19.97%	19.03%
Not Applicable	2	2	967	0.11%	0.1%	0.14%
Unknown	181	206	49,022	10.31%	9.94%	7.07%
Total	1,755	2,073	693,632	100%	100%	100%

Source: ©2017 National Cancer Data Base (NCDB) - Commission on Cancer (CoC) - Tuesday, December 5, 2017

The stage distribution for the 800 colon cancer patients diagnosed at Rhode Island, Miriam, and Newport Hospital from 2012 to 2016 is illustrated in the graph below.



Source: Rhode Island, Miriam, & Newport Hospital Oncology Data Management Departments; *88 – N/A; 99 - Unknown

Colon Cancer Treatment

Treatment for colon cancer is based on many factors including type, location, and stage of disease at diagnosis. Presently there are several treatment options for patients with colon cancer: surgery, chemotherapy, radiation and occasionally select cases are considered for radiofrequency ablation or liver directed therapy.

Treatment of stage 0 cancers may include local excision or polypectomy. If the tumor is too large to remove by local excision a resection with anastomosis may be necessary. Stage I and II colon cancers typically require surgical resection with anastomosis and removal of regional lymph nodes. Treatment of stage III cancers may include surgical resection with anastomosis and removal of regional lymph node; this may be followed by chemotherapy. For stage IV cancers, chemotherapy may be administered prior to surgery to decrease the size of the tumor.

Polypectomy – often performed during a colonoscopy, is a method of painlessly removing polyps from the colon.

Colectomy – is a surgical procedure to remove all or part of the colon and is used to treat early and late stage disease. Early stage cancers usually require removal of a small section of the colon, while advanced cancers may require a larger section of the colon be removed. The various types of colectomies are noted below.

- Total Colectomy – involves removing the entire colon.
- Partial Colectomy – also called a subtotal colectomy, involves removing part of the colon.
- Hemicolectomy – removes the right or left portion of the colon.
- Proctocolectomy – involves removing both the colon and rectum.

GI Clinical Trials Available at
The Lifespan Cancer Institute

Colorectal	
BrUOG 302: Rectal, BYL719, Capecitabine and Radiation	PI: Howard Safran, MD, Date of activation: 3/2016
LS-P-Bacci: Capecitabine Bevacizumab + Atezolizumab/Placebo - Refractory Metastatic Colorectal Cancer (ACCRU RU021416I)	PI: Howard Safran, MD, Date of activation: 07/2017

2017 Colon Cancer Outcome Analysis

The table below is based on information obtained from the National Cancer Database (NCDB) and illustrates a treatment comparison between Rhode Island Hospital, The Miriam Hospital, Newport Hospital and the other hospitals within the state of Rhode Island as well as hospitals in all other states.

Colon Cancer Diagnosed 2006 to 2015 by TREATMENT
All Diagnosed Cases – Hospital Type: All Types/Systems
Rhode Island Hospital, The Miriam Hospital, Newport Hospital vs. Other Hospitals in the State of Rhode Island vs. Hospitals in All States

	Number of Cases			Percent of Total Colon Cancer Cases by Treatment		
	Combined Program Total	Other Reporting Hospitals In Rhode Island	National Reporting Hospitals	Combined Program Total	Other Reporting Hospitals In Rhode Island	National Reporting Hospitals
TREATMENT						
Surgery Only	953	437	393,539	54.3%	55.67%	56.74%
Surgery, & Chemo	525	242	184,593	29.91%	30.83%	26.61%
No 1st Course Rx	129	46	52,271	7.35%	5.86%	7.54%
Chemotherapy Only	76	27	26,265	4.33%	3.44%	3.79%
Other Specified Therapy	33	12	12,079	1.88%	1.53%	1.74%
Surgery, Radiation, & Chemo	20	11	8,282	1.14%	1.4%	1.19%
Radiation & Chemo	7	3	2,079	0.4%	0.38%	0.3%
Radiation Only	4	2	1,263	0.23%	0.25%	0.18%
Surgery, Chemo, & BRM	3	2	6,617	0.17%	0.25%	0.95%
Surgery & Radiation	2	2	1,268	0.11%	0.25%	0.18%
Total	1,755	2,073	693,632	100%	100%	100%

Quality Oncology Practice Initiative (QOPI)

QOPI is an oncologist-led, practice-based quality improvement program sponsored by the American Society of Clinical Oncology (ASCO). The program offers a retrospective chart review for ambulatory hematology – oncology practices for systematic data collection, adherence to accepted standards of care and quality improvement goals to effectively measure and compare results with other practices in a consistent and meaningful way.

The performance rates for the colon cancer measures assessed during the spring 2017 data collection round are illustrated in the table below.

Colon Cancer Spring 2017	Lifespan Cancer Institute			
	RIH	TMH	NPH	Academic
Measures	Site Rate (%)	Site Rate (%)	Site Rate (%)	Mean %
CEA within 4 months of curative resection for colorectal cancer*	85.71	95.65	100.00	91.63
Adjuvant chemotherapy recommended within 4 months of diagnosis for patients with AJCC Stage III colon cancer	100.00	100.00	100.00	91.61
Adjuvant chemotherapy received within 4 months of diagnosis by patients with AJCC Stage III colon cancer*	100.00	91.67	100.00	96.15
12 or more lymph nodes examined for resected colon cancer	90.00	100.00	66.67	83.11
Adjuvant chemotherapy recommended within 9 months of diagnosis for patients with AJCC Stage II or III rectal cancer	100.00	~	~	76.92
Colonoscopy before or within 6 months of curative colorectal resection or completion of primary adjuvant chemotherapy*	100.00	76.92	100.00	83.72
RAS (KRAS and NRAS) testing for patients with metastatic colorectal cancer who received anti-EGFR MoAb therapy*	0.00	~	~	39.74
Anti-EGFR MoAb therapy received by patients with KRAS and NRAS mutation. **(Lower Score- Better)** (Top 5 Measure)	0.00	0.00	~	9.51
Anti-EGFR MoAb therapy not received by patients with KRAS and NRAS mutation (Inverse of CRC75)*	100.00	100.00	~	90.49

Summary

This is a review of the colon cancer patients who presented to the Lifespan Cancer Institute over a five year period from 2012-2016. The number of colon cancer cases within Lifespan fluctuated over the years, ranging between 151 and 214 newly diagnosed cases. Further review, revealed the same fluctuation within the rest of the state.

As seen in the rest of Rhode Island, Caucasians made-up the vast majority of colon cancer cases within the state (88%). African Americans made-up the second most common group at 4%. Our distribution of colon cancer by age at diagnosis for patients 50 to 69 was noted to be slightly lower than the national average and the 80 to 89 age group was noted to be 25% which is slightly higher than the national average of 20%.

Stage II and III colon cancers accounted for 48% of cases within Lifespan and were also the most frequently reported stages by the National Cancer Data Base (NCDB).

The Lifespan Cancer Institute adheres to NCCN (National Comprehensive Cancer Network) Clinical Practice Guidelines for treatment of all cancers. The majority of patients treated for colon cancer at Lifespan underwent surgery alone, which is consistent with the treatment distribution seen at other hospitals in the state and at national hospitals. Surgery followed by chemotherapy therapy was the second most common treatment distribution observed for all hospitals.

Colorectal Multidisciplinary Clinic

During 2016, a Multidisciplinary Clinic (MDC) focused on the diagnosis and treatment of colorectal cancer was established at The Miriam Hospital campus. To ensure timely patient assessment and coordination of care, patients referred to the colorectal MDC are seen by medical oncology, radiation oncology and surgical oncology during their initial visit. At the conclusion of this visit, a preliminary plan of care is established and discussed with the patient.

Colorectal MDC physicians include: colorectal surgeon Dr. Mathew Vrees, medical oncologist Dr. Rimini Breakstone and radiation oncologist Dr. Kara Leonard. The Miriam Hospital’s first Colorectal Cancer Multidisciplinary Clinic was in September 2016.